

Product Datasheet

12-port L2 2.5G Managed Industrial bt PoE Switch

(ONV-IPS57128PFM-bt)



OVERVIEW

The ONV-IPS57128PFM-bt is a 2.5G managed industrial bt PoE L2 switch independently developed by ONV. It has 8*10Base-T/100Base-TX/1000/2500Base-T adaptive RJ45 ports and 4*100M/1000M/10G uplink SFP+ optical ports.

Port 1-8 can support IEEE 802.3 af/at/bt PoE standard, and the single-port PoE power reaches 90W.

It can detect and identify standard-powered devices and supply power to them through network cables. It can supply power for high-power wireless AP, network dome cameras, high-power PoE lighting, industrial sensors, high-power network industrial control equipment, and other PoE terminal equipment through network cables to meet the network environment that requires high-density and high-power PoE power. It is suitable for intelligent transportation and industrial scenarios such as rail transit, electric power, mining, metallurgy, and green energy construction to establish cost-effective, stable, and reliable communication networks.

The ONV-IPS57128PFM-bt has L2+ network management functions, supports IPV4/IPV6 management, static route forwarding, complete security protection mechanisms, complete ACL/QoS policies, and rich VLAN functions for easy management and maintenance.

Supports multiple network redundancy protocols STP/RSTP/MSTP (<50ms) and (ITU-T G.8032) ERPS (<20ms) to improve link backup and network reliability. When a one-way network fails, communication can be quickly restored to ensure uninterrupted communication for important applications. According to application needs, PoE management, port management, routing address management, port flow control, VLAN division, IGMP, security policy, and other business configurations are performed through network management methods such as Web, CLI, SNMP, and Telnet.

FEATURE

■ 2.5G access, uplink 100M/1000M/10G SFP+ fiber port

- ◇ Support non-blocking wire-speed forwarding.
- ◇ Support full-duplex based on IEEE 802.3x and half-duplex based on Backpressure.
- ◇ Support 2.5G RJ45 port and 100M/1000M/10G uplink SFP+ fiber port combination, which enables users to flexibly build networking to meet the needs of various scenarios.

■ Smart PoE power supply

- ◇ PoE network management, realize PoE port on/off, port power status viewing, time scheduling, etc.
- ◇ Comply with IEEE 802.3 af/at/bt PoE standard, automatically identify PoE devices for power supply, and not damage non-PoE devices.
- ◇ 8*10Base-T/100Base-TX/1000/2500Base-T RJ45 ports can support bt PoE power, meeting the demand for a high-power PoE power supply in various scenarios.
- ◇ The PoE port supports the priority. When the remaining power is insufficient, the power of the high-priority port is prioritized to avoid overloading the device.

■ Strong business processing capability

- ◇ Support ERPS ring network and STP/RSTP/MSTP to eliminate layer 2 loops and realize link backup.
- ◇ Support IEEE 802.1Q VLAN, Users can flexibly divide VLAN, Voice VLAN, and QinQ configuration according to their needs.

- ◇ Support static and dynamic aggregation to effectively increase link bandwidth, realize load balancing, link backup, and improve link reliability.
- ◇ Support QoS, port-based, 802.1P-based and DSCP-based three priority modes and four queue scheduling algorithms: Equ, SP, WRR, and SP+WRR.
- ◇ Support ACL to filter data packets by configuring matching rule processing operations and time permissions, and provide flexible security access control policies.
- ◇ Support IGMP Snooping V1/V2/V3 multicast protocol IGMP to meet the multi-terminal high-definition video surveillance and video conference access requirements.

■ Security

- ◇ Port isolation and storm control.
- ◇ IP+MAC+port+VLAN quadruple flexible combination binding function.
- ◇ 802.1X authentication provides authentication functions for LAN computers, and controls the authorization status of controlled ports according to the authentication results.

■ Stable and reliable

- ◇ CCC, CE, FCC, RoHS.
- ◇ The user-friendly panel can show the device status through the LED indicator of PWR, SYS, Link, L/A, and PoE.
- ◇ Low power consumption, aluminum alloy housing, and excellent heat dissipation to ensure the stable operation of the switch.

■ Easy O&M management

- ◇ HTTPS, SSLV3, SSHV1/V2 and other encryption methods are more secure in management.
- ◇ RMON, system log, and port traffic statistics are convenient for network optimization and transformation.
- ◇ LLDP is convenient for the network management system to query and judge the communication status of the link.

- ◇ Various management and maintenance methods such as Web network management, CLI command line (Console, Telnet), SNMP (V1/V2/V3), Telnet, etc.

TECHNICAL SPECIFICATION

Model	ONV-IPS57128PFM-bt
Interface Characteristics	
Fixed Port	Power off alarm switch port (FAULT) 1*Console RS232 port (115200, N, 8,1) 4*100M/1000M/10G uplink SFP+ fiber ports (Data) 8*10Base-T/100Base-TX/1000/2500Base-T btPoE ports (Data/ Power) 2 set V+, V- redundant DC power ports (6P industrial Phoenix terminal)
Ethernet Port	Port 1-8 can support 10Base-T/100Base-TX/1000/2500Base-T auto-sensing, full/ half duplex MDI/ MDI-X self-adaption
Twisted Pair Transmission	10BASE-T: Cat3,4,5 UTP(≤100 meters) 100BASE-TX: Cat5 or later UTP(≤100 meters) 1000BASE-T: Cat5e or later UTP(≤100 meters) 2500BASE-T: Cat6a or later UTP(≤100 meters)
Optical Fiber Port	100M/1000M/10G SFP+ optical fiber port(not included opt. fiber port by def.) single-mode / multi-mode, single fiber / dual fiber optical module. LC)
Optical Cable/ Distance	Multi-mode: 850nm/ 0-550m, Single-mode: 1310nm/ 0-40km, 1550nm/ 0-120km
Chip Parameter	
Network Management Type	L2+
Network Protocol	IEEE 802.3 10BASE-T, IEEE 802.3i 10Base-T, IEEE 802.3u 100Base-TX, IEEE 802.3ab 1000Base-T, IEEE 802.3z 1000Base-X, IEEE 802.3be 2.5GBase-T, IEEE 802.3ae 10GBase-SR/LR, IEEE 802.3x
Forwarding Mode	Store and Forward(Full Wire Speed)

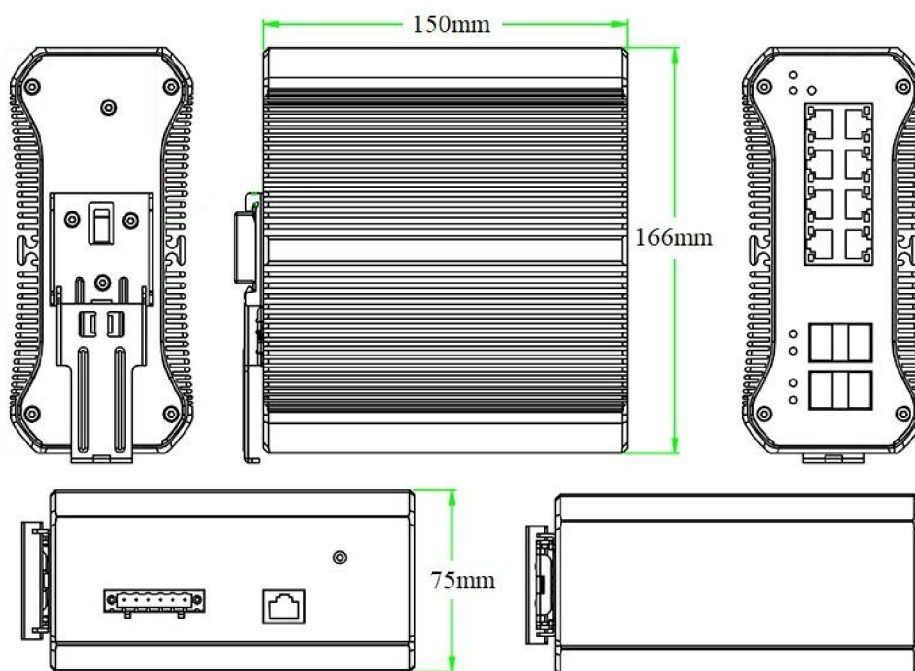
Switching Capacity	Store and Forward (Full wire speed)
Forwarding Rate@64byte	96Gbps (non-blocking)
CPU	Dual Core 1GHz
DRAM	2G
FLASH	256M
MAC	32K
Buffer Memory	16M
Jumbo Frame	12K
LED Indicator	Power/ System: SYS (Green), Network: Link (Yellow), PoE: PoE (Green), Fiber port: L/A (Green)
Reset Switch	Yes, press and hold the switch for 10 seconds and release it to restore the factory settings
PoE& Power Supply	
PoE Port	Port 1- 8 IEEE 802.3 af/at/bt PoE
PoE Management	Port PoE real-time load power display, Port PoE output on/off, PoE work and time scheduling
Power Supply Pin	1/2/4/5(+),3/6/7/8(-)
Max Power Per Port	90W, IEEE 802.3 af/at/bt
Power Consumption	Standby<13W, Full load af<120W, at<240W, bt<480W
Input Voltage/ Interface	DC48-57V, 6P industrial Phoenix terminal, support anti-reverse protection.
Power Supply	No, optional 48V/120W or 48V/240W or 48V/480W industrial power supply
Physical Parameter	
Operation Temp/ Humidity	-40°C~+75°C, 5%~90% RH Non condensing
Storage Temp/ Humidity	-40°C~+85°C, 5%~95% RH Non condensing
Dimension (L*W*H)	165*150*75mm
Net /Gross Weight	1.8kg/ 2.1kg
Installation	Desktop, 35mm DIN Rail
Certification& Warranty	
Lightning Protection	IEC61000-4-3 (RS):10V/m (80~1000MHz)

	FCC Part 15/CISPR22 (EN55022): Class A IEC61000-6-2 (Common Industrial Standard) IEC61000-4-9 (Pulsed magnet field): 1000A/m IEC61000-4-10 (Damped oscillation): 30A/m 1MHz IEC61000-4-12/18 (Shockwave): CM 2.5kV, DM 1kV Protection level: IP40, Lightning protection: 6KV 8/20us IEC61000-4-4(EFT): Power cable: ± 4kV, data cable: ± 2kV IEC61000-4-16 (Common-mode transmission): 30V, 300V, 1s IEC61000-4-2 (ESD): ± 8kV contact discharge, ± 15kV air discharge IEC61000-4-6 (Radio frequency transmission): 10V(150kHz~80MHz) IEC61000-4-8 (Power frequency magnetic field): 100A/m, 1000A/m, 1s-3s IEC61000-4-5 (Surge): Power cable: CM± 4kV/ DM± 2kV, data cable: ± 4kV
Mechanical Properties	IEC60068-2-6 (Anti Vibration), IEC60068-2-27 (Anti Shock), IEC60068-2-32 (Free Fall)
Certification	CE mark, commercial, CE/LVD EN62368-1, FCC Part 15 Class A, RoHS
Warranty	5 years, lifelong maintenance.
Network Management Feature	
Interface	IEEE 802.3x flow control (Full duplex) Port exception protection mechanism Port real-time flow management (Flow Interval) Broadcast storm suppression based on port rate Optical port SFP module DDMI real-time digital diagnosis Port EEE Green Ethernet Energy-Saving configuration and status view Limit the rate of incoming and outgoing packet traffic, with mini granularity of 16Kbps and max of 1Gbps
L3 Feature	ARP protocol max 1024 entries Static route, RIPv1/v2, RIPng, OSPFv1/v2, OSPFv3 L2+ network management function, IPV4/ IPV6 dual-stack management
VLAN	Port configuration of Access, Trunk, Hybrid, IEEE 802.1q

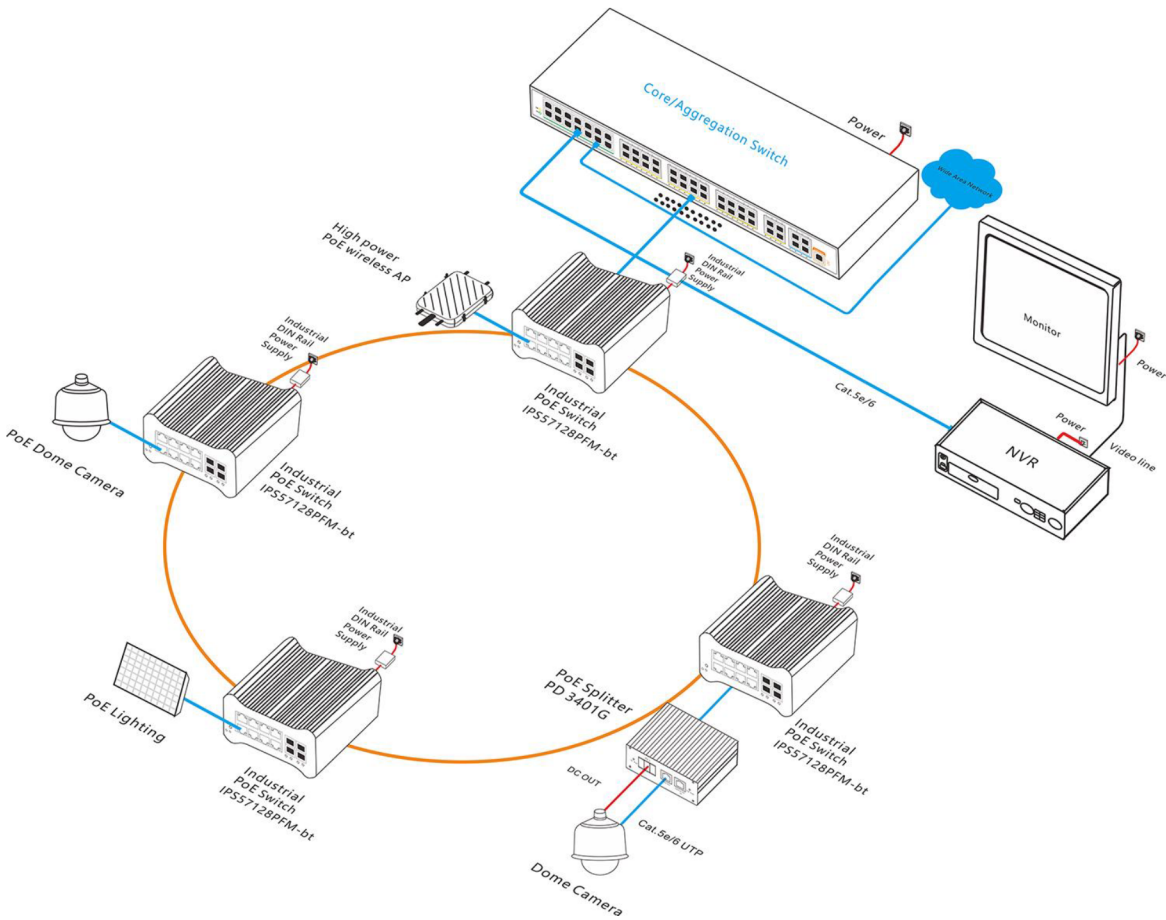
	Voice VLAN, GVRP VLAN protocol, Port-based VLAN (4K) Protocol-based VLAN, MAC address-based VLAN, QinQ configuration
Port Aggregation	LACP dynamic aggregation, Static aggregation, Max 6 aggregation groups and max 8 ports per group.
Spanning Tree	STP BPDU Guard, BPDU filtering and BPDU forwarding STP (IEEE802.1d), RSTP (IEEE802.1w), MSTP (IEEE802.1s)
ERPS Ring Network	ERPS, Recovery time less than 20ms, ITU-T G.8032
Multicast	MLD Snooping, Multicast VLAN User quick log out, MVR (Multicast VLAN Registration) IGMP Snooping v1/v2/v3 and 1024 multicast groups at most
Mirroring	Bidirectional traffic mirroring for basic ports one-to-multiple mirroring, supports up to 4 port sessions
QoS	Flow-based rate limiting, Flow-based redirection Queue scheduling algorithm (SP, WRR, SP+WRR) Flow-based packet filtering, 8*Output queues of each port 802.1p/ DSCP priority mapping, Diff-Serv QoS, Priority mark/ remark
ACL	ACL distribution based on port and VLAN L2-L4 packet filtering function, matching the first 80 bytes message, and provides ACL definitions based on source MAC address, destination MAC address, source IP address, destination IP address, IP protocol type, TCP/UDP port, TCP/UDP port range, VLAN, etc.
Security	Port based IEEE802.1X authentication SSL guarantees data transmission security Quad binding function of IP+MAC+VLAN+ports MAC address learning limit, MAC address black hole IP Source Guard function, AAA& RADIUS certification Anti DoS attack, Port broadcast message suppression Hierarchical user management and password protection SSH 2.0 provides a secure encrypted channel for user login

	Host data backup mechanism, ARP intrusion detection function Port isolation, IP source address protection, ARP message speed limit function
DHCP	DHCP Client, DHCP Snooping, DHCP Server
Management	NTP clock, Web network management (https) Ping detection, System work log, SNMP V1/V2/V3 FTP, TFTP file upload and download management Console/Telnet/CLI/SSH command line configuration ONV-NMS platform cluster management (LLDP+SNMP) One click restore, Link Layer Discovery Protocol (LLDP) Cable status check, Viewing CPU Instant Utilization Status
System	Web browser: Mozilla Firefox 2.5 or higher, Google Chrome V42 or higher, Cat5 and above Ethernet cable TCP/IP, network adapter, and network operating system (such as Microsoft Windows, Linux, Mac OS X) installed on each computer in the network Cat5 and above Ethernet cable

DIMENSION



APPLICATION



PACKING LIST

Packing List	Content	Qty	Unit
	12-port L2 2.5G managed industrial bt PoE switch	1	Set
	RJ45-DB9 Adapter Cable	1	PC
	User Guide	1	PC
	Warranty Card and Certificate of Conformity	1	PC

OPTICAL MODULE

Product	Model	Description	Unit
1.25G Optical Module	2630-G	Industrial SFP optical module, 1.25G, multi-mode dual fiber 850nm, transmission distance: 550m, LC interface, support DDM function, support hot plug and pull.	PC
	2632-G	Industrial SFP optical module, 1.25G, single-mode dual fiber 1310nm, transmission distance: 20km, LC interface, support DDM function, support hot plug and pull.	PC
	2612-T-G	Industrial SFP optical module, 1.25G, single-mode single fiber TX1310nm/ RX1550nm, transmission distance: 20km, LC interface, support DDM function, support hot plug and pull.	PC
	2613-R-G	Industrial SFP optical module, 1.25G, single-mode single fiber TX1550nm/ RX1310nm, transmission distance: 20km, LC interface, support DDM function, support hot plug and pull.	PC
	2612-T-G-SC	Industrial SFP optical module, 1.25G, single-mode single fiber TX1310nm/ RX1550nm, transmission distance: 20km, SC interface, support DDM function, support hot plug and pull.	PC
	2613-R-G-SC	Industrial SFP optical module, 1.25G, single-mode single fiber TX1550nm/ RX1310nm, transmission distance: 20km, SC interface, support DDM function, support hot plug and pull.	PC

10G Optical Module	6630-G	Industrial SFP+ optical module, 10G, multi-mode dual fiber 850nm, transmission distance: 300m, LC interface, support DDM function, support hot plug and pull.	PC
	7832-G	Industrial SFP+ optical module, 10G, single-mode dual fiber 1310nm, transmission distance: 20km, LC interface, support DDM function, support hot plug and pull.	PC
	7832-33-G	Industrial SFP+ optical module, 10G, single-mode single fiber TX1330nm/ RX1270nm, transmission distance: 20km, LC interface, support DDM function, support hot plug and pull.	PC
	7832-27-G	Industrial SFP+ optical module, 10G, single-mode single fiber TX1270nm/ RX1330nm, transmission distance: 20km, LC interface, support DDM function, support hot plug and pull.	PC

POWER SUPPLY

Product	Model	Description	Unit
120W DIN Rail Industrial Power Supply	GWS-DP120-48	DIN Rail 120W single set of output power supply Input Voltage: AC100V-240V 50-60Hz, 2.3A Output Voltage: DC48V, 2.5A Operation Temperature: -40℃ to +70℃	PC
240W DIN Rail Industrial Power Supply	GWS-DP240-48	DIN Rail 240W single set of output power supply Input Voltage: AC100V-240V 50-60Hz, 3.0A Output Voltage: DC48V, 5.0A Operation Temperature: -40℃ to +70℃	PC
480W DIN Rail Industrial Power Supply	GWS-DP480-48	DIN Rail 480W single set of output power supply Input Voltage: AC100V-240V 50-60Hz, 5.0A Output Voltage: DC48V, 10A Operation Temperature: -40℃ to +70℃	PC

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